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Sequence Listing was accepted.

See attached Validation Report.

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Reviewer: Durreshwar Anjum

Timestamp: [year=2009; month=2; day=12; hr=8; min=0; sec=56; ms=318;]

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Application No: 09735786 Version No: 4.0

Input Set:

Output Set:

Started: 2009-01-29 15:40:50.038
Finished: 2009-01-29 15:41:00.983
Elapsed: 0 hr(s) 0 min(s) 10 sec(s) 945 ms
Total Warnings: 7
Total Errors: 4
No. of SeqIDs Defined: 39
Actual SeqID Count: 39

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (27)
E 257	Invalid sequence data feature in <221> in SEQ ID (27)
W 213	Artificial or Unknown found in <213> in SEQ ID (28)
W 213	Artificial or Unknown found in <213> in SEQ ID (29)
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W 213	Artificial or Unknown found in <213> in SEQ ID (38)
E 257	Invalid sequence data feature in <221> in SEQ ID (38)
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W 213	Artificial or Unknown found in <213> in SEQ ID (39)

SEQUENCE LISTING

<110> GUARENTE, LEONARD
 IMAI, SHIN-ICHIRO
 ARMSTRONG, CHRISTOPHER
 TISSENBAUM, HEIDI A.

<120> METHODS FOR IDENTIFYING AGENTS WHICH ALTER HISTONE
 PROTEIN ACETYLATION, DECREASE AGING OR INCREASE
 LIFESPAN

<130> E2023-700030

<140> 09735786

<141> 2000-12-13

<150> 09/461,580

<151> 1999-12-15

<160> 39

<170> PatentIn Ver. 3.5

<210> 1

<211> 737

<212> PRT

<213> Mus musculus

<400> 1

Met Ala Asp Glu Val Ala Leu Ala Leu Gln Ala Ala Gly Ser Pro Ser
 1 5 10 15

Ala Ala Ala Ala Met Glu Ala Ala Ser Gln Pro Ala Asp Glu Pro Leu
 20 25 30

Arg Lys Arg Pro Arg Arg Asp Gly Pro Gly Leu Gly Arg Ser Pro Gly
 35 40 45

Glu Pro Ser Ala Ala Val Ala Pro Ala Ala Ala Gly Cys Glu Ala Ala
 50 55 60

Ser Ala Ala Ala Pro Ala Ala Leu Trp Arg Glu Ala Ala Gly Ala Ala
 65 70 75 80

Ala Ser Ala Glu Arg Glu Ala Pro Ala Thr Ala Val Ala Gly Asp Gly
 85 90 95

Asp Asn Gly Ser Gly Leu Arg Arg Glu Pro Arg Ala Ala Asp Asp Phe
 100 105 110

Asp Asp Asp Glu Gly Glu Glu Glu Asp Glu Ala Ala Ala Ala Ala Ala
 115 120 125

Ala Ala Ala Ile Gly Tyr Arg Asp Asn Leu Leu Leu Thr Asp Gly Leu
 130 135 140

Leu	Thr	Asn	Gly	Phe	His	Ser	Cys	Glu	Ser	Asp	Asp	Asp	Asp	Arg	Thr	145	150	155	160
Ser	His	Ala	Ser	Ser	Ser	Asp	Trp	Thr	Pro	Arg	Pro	Arg	Ile	Gly	Pro	165	170	175	
Tyr	Thr	Phe	Val	Gln	Gln	His	Leu	Met	Ile	Gly	Thr	Asp	Pro	Arg	Thr	180	185	190	
Ile	Leu	Lys	Asp	Leu	Leu	Pro	Glu	Thr	Ile	Pro	Pro	Pro	Glu	Leu	Asp	195	200	205	
Asp	Met	Thr	Leu	Trp	Gln	Ile	Val	Ile	Asn	Ile	Leu	Ser	Glu	Pro	Pro	210	215	220	
Lys	Arg	Lys	Lys	Arg	Lys	Asp	Ile	Asn	Thr	Ile	Glu	Asp	Ala	Val	Lys	225	230	235	240
Leu	Leu	Gln	Glu	Cys	Lys	Lys	Ile	Ile	Val	Leu	Thr	Gly	Ala	Gly	Val	245	250	255	
Ser	Val	Ser	Cys	Gly	Ile	Pro	Asp	Phe	Arg	Ser	Arg	Asp	Gly	Ile	Tyr	260	265	270	
Ala	Arg	Leu	Ala	Val	Asp	Phe	Pro	Asp	Leu	Pro	Asp	Pro	Gln	Ala	Met	275	280	285	
Phe	Asp	Ile	Glu	Tyr	Phe	Arg	Lys	Asp	Pro	Arg	Pro	Phe	Phe	Lys	Phe	290	295	300	
Ala	Lys	Glu	Ile	Tyr	Pro	Gly	Gln	Phe	Gln	Pro	Ser	Leu	Cys	His	Lys	305	310	315	320
Phe	Ile	Ala	Leu	Ser	Asp	Lys	Glu	Gly	Lys	Leu	Leu	Arg	Asn	Tyr	Thr	325	330	335	
Gln	Asn	Ile	Asp	Thr	Leu	Glu	Gln	Val	Ala	Gly	Ile	Gln	Arg	Ile	Leu	340	345	350	
Gln	Cys	His	Gly	Ser	Phe	Ala	Thr	Ala	Ser	Cys	Leu	Ile	Cys	Lys	Tyr	355	360	365	
Lys	Val	Asp	Cys	Glu	Ala	Val	Arg	Gly	Asp	Ile	Phe	Asn	Gln	Val	Val	370	375	380	
Pro	Arg	Cys	Pro	Arg	Cys	Pro	Ala	Asp	Glu	Pro	Leu	Ala	Ile	Met	Lys	385	390	395	400
Pro	Glu	Ile	Val	Phe	Phe	Gly	Glu	Asn	Leu	Pro	Glu	Gln	Phe	His	Arg	405	410	415	
Ala	Met	Lys	Tyr	Asp	Lys	Asp	Glu	Val	Asp	Leu	Leu	Ile	Val	Ile	Gly	420	425	430	
Ser	Ser	Leu	Lys	Val	Arg	Pro	Val	Ala	Leu	Ile	Pro	Ser	Ser	Ile	Pro	435	440	445	

His Glu Val Pro Gln Ile Leu Ile Asn Arg Glu Pro Leu Pro His Leu
 450 455 460

His Phe Asp Val Glu Leu Leu Gly Asp Cys Asp Val Ile Ile Asn Glu
 465 470 475 480

Leu Cys His Arg Leu Gly Gly Glu Tyr Ala Lys Leu Cys Cys Asn Pro
 485 490 495

Val Lys Leu Ser Glu Ile Thr Glu Lys Pro Pro Arg Pro Gln Lys Glu
 500 505 510

Leu Val His Leu Ser Glu Leu Pro Pro Thr Pro Leu His Ile Ser Glu
 515 520 525

Asp Ser Ser Ser Pro Glu Arg Thr Val Pro Gln Asp Ser Ser Val Ile
 530 535 540

Ala Thr Leu Val Asp Gln Ala Thr Asn Asn Asn Val Asn Asp Leu Glu
 545 550 555 560

Val Ser Glu Ser Ser Cys Val Glu Glu Lys Pro Gln Glu Val Gln Thr
 565 570 575

Ser Arg Asn Val Glu Asn Ile Asn Val Glu Asn Pro Asp Phe Lys Ala
 580 585 590

Val Gly Ser Ser Thr Ala Asp Lys Asn Glu Arg Thr Ser Val Ala Glu
 595 600 605

Thr Val Arg Lys Cys Trp Pro Asn Arg Leu Ala Lys Glu Gln Ile Ser
 610 615 620

Lys Arg Leu Glu Gly Asn Gln Tyr Leu Phe Val Pro Pro Asn Arg Tyr
 625 630 635 640

Ile Phe His Gly Ala Glu Val Tyr Ser Asp Ser Glu Asp Asp Val Leu
 645 650 655

Ser Ser Ser Ser Cys Gly Ser Asn Ser Asp Ser Gly Thr Cys Gln Ser
 660 665 670

Pro Ser Leu Glu Glu Pro Leu Glu Asp Glu Ser Glu Ile Glu Glu Phe
 675 680 685

Tyr Asn Gly Leu Glu Asp Asp Thr Glu Arg Pro Glu Cys Ala Gly Gly
 690 695 700

Ser Gly Phe Gly Ala Asp Gly Gly Asp Gln Glu Val Val Asn Glu Ala
 705 710 715 720

Ile Ala Thr Arg Gln Glu Leu Thr Asp Val Asn Tyr Pro Ser Asp Lys
 725 730 735

Ser

<210> 2

<211> 272

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 2

Ile Asn Lys Val Leu Cys Thr Arg Leu Arg Leu Ser Asn Phe Phe Thr
1 5 10 15

Ile Asp His Phe Ile Gln Lys Leu His Thr Ala Arg Lys Ile Leu Val
20 25 30

Leu Thr Gly Ala Gly Val Ser Thr Ser Leu Gly Ile Pro Asp Phe Arg
35 40 45

Ser Ser Glu Gly Phe Tyr Ser Lys Ile Lys His Leu Gly Leu Asp Asp
50 55 60

Pro Gln Asp Val Phe Asn Tyr Asn Ile Phe Met His Asp Pro Ser Val
65 70 75 80

Phe Tyr Asn Ile Ala Asn Met Val Leu Pro Pro Glu Lys Ile Tyr Ser
85 90 95

Pro Leu His Ser Phe Ile Lys Met Leu Gln Met Lys Gly Lys Leu Leu
100 105 110

Arg Asn Tyr Thr Gln Asn Ile Asp Asn Leu Glu Ser Tyr Ala Gly Ile
115 120 125

Ser Thr Asp Lys Leu Val Gln Cys His Gly Ser Phe Ala Thr Ala Thr
130 135 140

Cys Val Thr Cys His Trp Asn Leu Pro Gly Glu Arg Ile Phe Asn Lys
145 150 155 160

Ile Arg Asn Leu Glu Leu Pro Leu Cys Pro Tyr Cys Tyr Lys Lys Arg
165 170 175

Arg Glu Tyr Phe Pro Glu Gly Tyr Asn Asn Lys Val Gly Val Ala Ala
180 185 190

Ser Gln Gly Ser Met Ser Glu Arg Pro Pro Tyr Ile Leu Asn Ser Tyr
195 200 205

Gly Val Leu Lys Pro Asp Ile Thr Phe Phe Gly Glu Ala Leu Pro Asn
210 215 220

Lys Phe His Lys Ser Ile Arg Glu Asp Ile Leu Glu Cys Asp Leu Leu
225 230 235 240

Ile Cys Ile Gly Thr Ser Leu Lys Val Ala Pro Val Ser Glu Ile Val
245 250 255

Asn Met Val Pro Ser His Val Pro Gln Val Leu Ile Asn Arg Asp Pro
260 265 270

<210> 3

<211> 267

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 3

Ile Asn Lys Val Leu Ser Thr Arg Leu Arg Leu Pro Asn Phe Asn Thr
1 5 10 15

Ile Asp His Phe Thr Ala Thr Leu Arg Asn Ala Lys Lys Ile Leu Val
20 25 30

Leu Thr Gly Ala Gly Val Ser Thr Ser Leu Gly Ile Pro Asp Phe Arg
35 40 45

Ser Ser Glu Gly Phe Tyr Ser Lys Ile Arg His Leu Gly Leu Glu Asp
50 55 60

Pro Gln Asp Val Phe Asn Leu Asp Ile Phe Leu Gln Asp Pro Ser Val
65 70 75 80

Phe Tyr Asn Ile Ala His Met Val Leu Pro Pro Glu Asn Met Tyr Ser
85 90 95

Pro Leu His Ser Phe Ile Lys Met Leu Gln Asp Lys Gly Lys Leu Leu
100 105 110

Arg Asn Tyr Thr Gln Asn Ile Asp Asn Leu Glu Ser Tyr Ala Gly Ile
115 120 125

Asp Pro Asp Lys Leu Val Gln Cys His Gly Ser Phe Ala Thr Ala Ser
130 135 140

Cys Val Thr Cys His Trp Gln Ile Pro Gly Glu Lys Ile Phe Glu Asn
145 150 155 160

Ile Arg Asn Leu Glu Leu Pro Leu Cys Pro Tyr Cys Tyr Gln Lys Arg
165 170 175

Lys Gln Tyr Phe Pro Met Ser Asn Gly Asn Asn Thr Val Gln Thr Asn
180 185 190

Ile Asn Phe Asn Ser Pro Ile Leu Lys Ser Tyr Gly Val Leu Lys Pro
195 200 205

Asp Met Thr Phe Phe Gly Glu Ala Leu Pro Ser Arg Phe His Lys Thr
210 215 220

Ile Arg Lys Asp Ile Leu Glu Cys Asp Leu Leu Ile Cys Ile Gly Thr
225 230 235 240

Ser Leu Lys Val Ala Pro Val Ser Glu Ile Val Asn Met Val Pro Ser
245 250 255

His Val Pro Gln Ile Leu Ile Asn Arg Asp Met
260 265

<210> 4

<211> 245

<212> PRT

<213> Mus musculus

<400> 4

Val Ile Asn Ile Leu Ser Glu Pro Pro Lys Arg Lys Lys Arg Lys Asp
1 5 10 15

Ile Asn Thr Ile Glu Asp Ala Val Lys Leu Leu Gln Glu Cys Lys Lys
20 25 30

Ile Ile Val Leu Thr Gly Ala Gly Val Ser Val Ser Cys Gly Ile Pro
35 40 45

Asp Phe Arg Ser Arg Asp Gly Ile Tyr Ala Arg Leu Ala Val Asp Phe
50 55 60

Pro Asp Leu Pro Asp Pro Gln Ala Met Phe Asp Ile Glu Tyr Phe Arg
65 70 75 80

Lys Asp Pro Arg Pro Phe Phe Lys Phe Ala Lys Glu Ile Tyr Pro Gly
85 90 95

Gln Phe Gln Pro Ser Leu Cys His Lys Phe Ile Ala Leu Ser Asp Lys
100 105 110

Glu Gly Lys Leu Leu Arg Asn Tyr Thr Gln Asn Ile Asp Thr Leu Glu
115 120 125

Gln Val Ala Gly Ile Gln Arg Ile Leu Gln Cys His Gly Ser Phe Ala
130 135 140

Thr Ala Ser Cys Leu Ile Cys Lys Tyr Lys Val Asp Cys Glu Ala Val
145 150 155 160

Arg Gly Asp Ile Phe Asn Gln Val Val Pro Arg Cys Pro Arg Cys Pro
165 170 175

Ala Asp Glu Pro Leu Ala Ile Met Lys Pro Glu Ile Val Phe Phe Gly
180 185 190

Glu Asn Leu Pro Glu Gln Phe His Arg Ala Met Lys Tyr Asp Lys Asp
195 200 205

Glu Val Asp Leu Leu Ile Val Ile Gly Ser Ser Leu Lys Val Arg Pro
210 215 220

Val Ala Leu Ile Pro Ser Ser Ile Pro His Glu Val Pro Gln Ile Leu
225 230 235 240

Ile Asn Arg Glu Pro
245

<210> 5
<211> 237
<212> PRT
<213> Salmonella typhimurium

<400> 5
Met Met Glu Asn Pro Arg Val Leu Val Leu Thr Gly Ala Gly Ile Ser
1 5 10 15
Ala Glu Ser Gly Ile Arg Thr Phe Arg Ala Ala Asp Gly Leu Trp Glu
20 25 30
Glu His Arg Val Glu Asp Val Ala Thr Pro Glu Gly Phe Ala Arg Asn
35 40 45
Pro Gly Leu Val Gln Thr Phe Tyr Asn Ala Arg Arg Gln Gln Leu Gln
50 55 60
Gln Pro Glu Ile Gln Pro Asn Ala Ala His Leu Ala Leu Ala Asn Leu
65 70 75 80
Lys Lys Arg Leu Ala Ile Ala Phe Leu Leu Val Thr Gln Asn Ile Asp
85 90 95
Asn Leu His Glu Arg Ala Gly Asn Arg Asn Ile Ile Gln Met His Gly
100 105 110
Glu Leu Leu Lys Val Arg Cys Ser Gln Ser Gly Gln Ile Leu Glu Trp
115 120 125
Asn Gly Asp Val Met Pro Glu Asp Lys Cys His Cys Cys Gln Phe Pro
130 135 140
Ala Pro Leu Arg Pro His Val Val Trp Phe Gly Glu Met Pro Leu Gly
145 150 155 160
Met Asp Glu Ile Tyr Met Ala Leu Ser Met Ala Asp Ile Phe Ile Ala
165 170 175
Ile Gly Thr Ser Gly His Val Tyr Pro Ala Ala Gly Phe Val His Glu
180 185 190
Ala Lys Leu His Gly Ala His Thr Val Glu Leu Asn Leu Glu Pro Ser
195 200 205
Gln Val Gly Asn Glu Phe Glu Glu Lys His Tyr Gly Pro Ala Ser Gln
210 215 220
Val Val Pro Glu Phe Val Asp Lys Phe Leu Lys Gly Leu
225 230 235

<210> 6
<211> 21
<212> PRT
<213> Homo sapiens

<400> 6

Ala Arg Thr Lys Gln Thr Ala Arg Lys Ser Thr Gly Gly Lys Ala Pro
1 5 10 15

Arg Lys Gln Leu Cys
20

<210> 7

<211> 20

<212> PRT

<213> Homo sapiens

<400> 7

Ser Gly Arg Gly Lys Gly Gly Lys Gly Leu Gly Lys Gly Gly Ala Lys
1 5 10 15

Arg His Arg Cys
20

<210> 8

<211> 19

<212> PRT

<213> Homo sapiens

<400> 8

Ala Gly Gly Lys Gly Gly Lys Gly Met Gly Lys Val Gly Ala Lys Arg
1 5 10 15

His Ser Cys

<210> 9

<211> 128

<212> PRT

<213> Mus musculus

<400> 9

Ile Val Leu Thr Gly Ala Gly Val Ser Val Ser Cys Gly Ile Pro Asp
1 5 10 15

Phe Arg Ser Arg Asp Gly Ile Tyr Ala Arg Leu Ala Val Asp Phe Pro
20 25 30

Asp Leu Pro Asp Pro Gln Ala Met Phe Asp Ile Glu Tyr Phe Arg Lys
35 40 45

Asp Pro Arg Pro Phe Phe Lys Phe Ala Lys Glu Ile Tyr Pro Gly Gln
50 55 60

Phe Gln Pro Ser Leu Cys His Lys Phe Ile Ala Leu Ser Asp Lys Glu
65 70 75 80

Gly Lys Leu Leu Arg Asn Tyr Thr Gln Asn Ile Asp Thr Leu Glu Gln
85 90 95

Val Ala Gly Ile Gln Arg Ile Leu Gln Cys His Gly Ser Phe Ala Thr
100 105 110

Ala Ser Cys Leu Ile Cys Lys Tyr Lys Val Asp Cys Glu Ala Val Arg
115 120 125

<210> 10

<211> 128

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 10